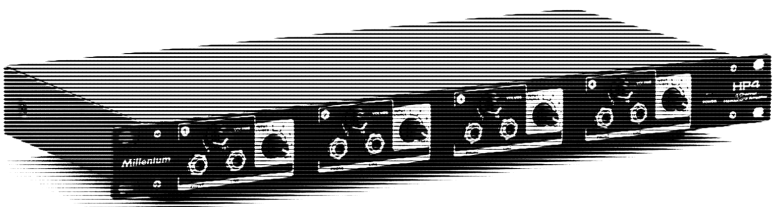
Millenium

HP4

headphone amplifier



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MUSIC IS OUR PASSION

user manual

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05.08.2015, ID: 234787

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1 General notes

This user manual contains important information on safe operation of the device. Read and follow all safety notes and all instructions. Save this manual for future reference. Make sure that it is available to all persons using this device. If you sell the device to other users, be sure that they also receive this manual.

Our products are subject to a process of continuous development. We therefore reserve the right to make changes without notice.

Symbols and signal words

This section provides an overview of the symbols and signal words used in this user manual.

Signal word	Meaning
DANGER!	This combination of symbol and signal word indicates an immediate dangerous situation that will result in death or serious injury if it is not avoided.
CAUTION!	This combination of symbol and signal word indicates a possible dangerous situation that can result in minor injury if it is not avoided.
NOTICE!	This combination of symbol and signal word indicates a possible dangerous situation that can result in material and environmental damage if it is not avoided.

Warning signs	Type of danger
	Warning – high-voltage.

Warning signs	Type of danger
	Warning – danger zone.

2 Safety instructions

Intended use

This device is intended to be used for amplification and distribution of signals from audio devices and musical instruments to the connected headphones and audio devices. Use the device only as described in this user manual. Any other use or use under other operating conditions is considered to be improper and may result in personal injury or property damage. No liability will be assumed for damages resulting from improper use.

This device may be used only by persons with sufficient physical, sensorial, and intellectual abilities and having corresponding knowledge and experience. Other persons may use this device only if they are supervised or instructed by a person who is responsible for their safety.

Safety

DANGER!

Danger for children

Ensure that plastic bags, packaging, etc. are disposed of properly and are not within reach of babies and young children. Choking hazard!

Ensure that children do not detach any small parts (e.g. knobs or the like) from the unit. They could swallow the pieces and choke!

Never let children unattended use electrical devices.

DANGER!

Electric shock caused by high voltages inside

Within the device there are areas where high voltages may be present. Never remove any covers.

There are no user-serviceable parts inside.

DANGER!

Electric shock caused by short-circuit

Always use proper ready-made insulated mains cabling (power cord) with a protective contact plug. Do not modify the mains cable or the plug. Failure to do so could result in electric shock/death or fire. If in doubt, seek advice from a registered electrician.

CAUTION!

Possible hearing damage

With loudspeakers or headphones connected, the device can produce volume levels that may cause temporary or permanent hearing impairment.

Do not operate the device permanently at a high volume level. Decrease the volume level immediately if you experience ringing in your ears or hearing impairment.

NOTICE!

Risk of fire

Do not cover the device nor any ventilation slots. Do not place the device near any direct heat source. Keep the device away from naked flames.

NOTICE!

Operating conditions

This device has been designed for indoor use only. To prevent damage, never expose the device to any liquid or moisture. Avoid direct sunlight, heavy dirt, and strong vibrations.

NOTICE!

Power supply

Before connecting the device, ensure that the input voltage (AC outlet) matches the voltage rating of the device and that the AC outlet is protected by a residual current circuit breaker. Failure to do so could result in damage to the device and possibly injure the user.

Unplug the device before electrical storms occur and when it is unused for long periods of time to reduce the risk of electric shock or fire.

3 Features

- Excellent sound quality
- Flexible switch matrix
- Four servo-balanced stereo inputs, also suitable for mono operation
- Four signal outputs, each with line and headphone jack as well as individual volume control
- Low-noise linear operational amplifiers for transparent sound with maximum headroom at high output level
- Integrated shielded double-regulated power supply
- Rackable 19" format (1 RU)

4 Installation and starting up

Unpack and carefully check that there is no transportation damage before using the unit. Keep the equipment packaging. To fully protect the device against vibration, dust and moisture during transportation or storage use the original packaging or your own packaging material suitable for transport or storage, respectively.

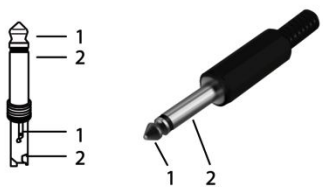
Establish all connections as long as the unit is switched off. Use the shortest possible high-quality cables for all connections.

Rack mounting

The unit has been designed for rack mounting in a standard 19-inch rack; it occupies one rack unit.

4.1 Pin assignment

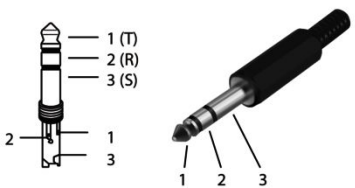
1/4" phone sockets for signal inputs



Drawings and tables indicate the pin assignment of 1/4" phone plugs to be used.

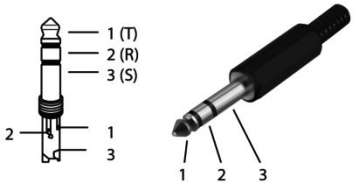
Unbalanced wired TS plug:

1	Signal
2	Ground, shielding



Unbalanced wired TRS plug:

1	Signal
2, 3	Ground, shielding

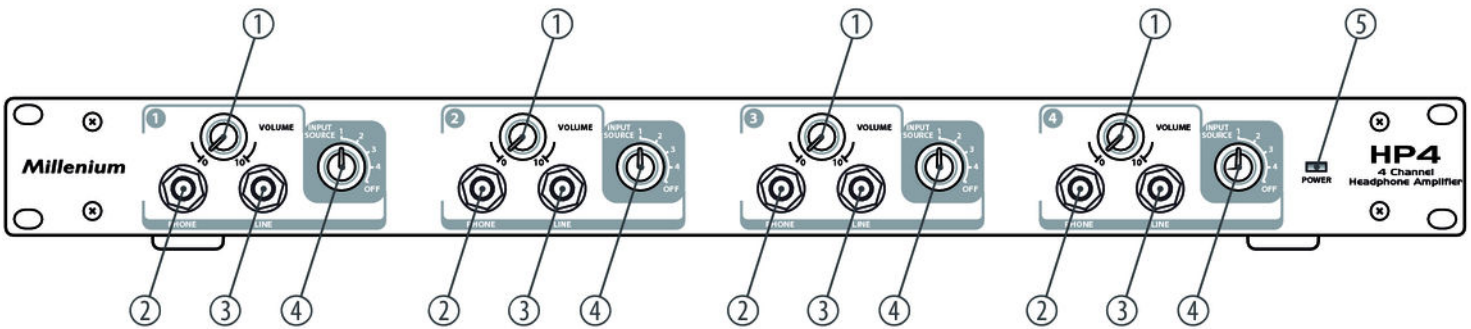


Balanced wired TRS plug:

1	Positive signal (+)
2	Negative signal (–)
3	Ground, shielding

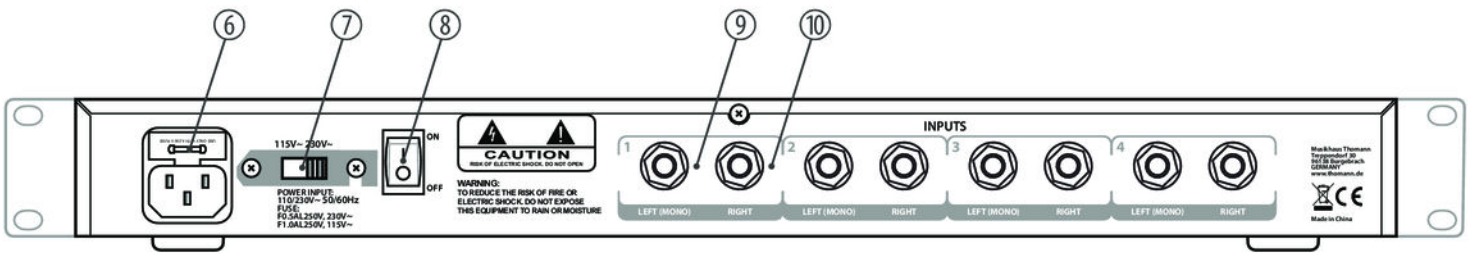
5 Connections and operating elements

Front panel



1	**VOLUME** Volume control for the line and headphone outputs.
2	**PHONE** Headphone outputs (1/4" phone sockets, stereo).
3	**LINE** Line outputs (1/4" phone sockets, stereo) to loop through the input signals to the connected audio equipment.
4	**INPUT SOURCE** Rotary switch for the assignment of the four rear-panel audio inputs to the line and headphone outputs on the front panel.
5	**POWER** LED to indicate the operating status. This LED lights up when the unit is turned on.

Rear panel


6
7
8
9
10
115V~ 230V~
POWER INPUT:
110/230V~ 50/60Hz
FUSE:
F0.5AL250V, 230V~
F1.0AL250V, 115V~
ON
OFF
CAUTION
WARNING:
TO REDUCE THE RISK OF FIRE OR
ELECTRIC SHOCK, DO NOT EXPOSE
THIS EQUIPMENT TO RAIN OR MOISTURE
INPUTS
1
2
3
4
LEFT (MONO)
RIGHT
LEFT (MONO)
RIGHT
LEFT (MONO)
RIGHT
LEFT (MONO)
RIGHT
Made in China

6	IEC chassis connector with fuse holder for operating voltage supply.
7	Operating voltage selector for AC 115 V or 230 V (= factory preset).
8	**ON | OFF** Mains switch to turn the device on or off.
9	**LEFT (MONO)** Audio inputs (1/4" phone sockets). For mono operation, connect the signal source to this input of the respective channel. For stereo operation, connect the left channel of the signal source to this input of the respective channel.
10	**RIGHT** Audio inputs (1/4" phone sockets). For stereo operation, connect the right channel of the signal source to this input of the respective channel.

6 Functions

The device amplifies and distributes up to four input signals in mono or stereo mode to the four integrated output channels. The output signals can be played via up to four headphones and / or looped through to four more audio devices with line level.

Moreover, thanks to the flexible switch matrix, you can use the rotary switch **INPUT SOURCE** to link or mute the inputs and outputs of the four channels to your liking. Turn the dedicated volume knobs to adjust the channel volume within a range of 0 to 10.

7 Technical specifications

Audio inputs	4 × 1/4" phone sockets (unbalanced) Impedance: 47 kΩ Peak input level: +25 dB Gain control range: +35 dB
Headphones outputs	4 × 1/4" phone sockets (stereo) Max. output level: 300 mW, 32 Ω (max. 1 W, 32 Ω) Output impedance: 22 Ω Max. gain: +20 dB
Line outputs	4 × 1/4" phone sockets (unbalanced/parallel)
Frequency response	20 Hz … 20 kHz (0 dB … –2 dB)
THD	0.02 %
Signal-to-Noise ratio	> 80 dB

Crosstalk suppression	> 68 dB @ 1 kHz, 20 dB input
Operating supply voltage	AC 115/230 V ~ , 50/60 Hz
Power consumption	11.5 W
Fuse	500 mA (quick-blow), 5 × 20 mm, @ AC 230 V ~ 1 A (quick-blow), 5 × 20 mm, @ AC 115 V ~
Dimensions (W × H × D)	482.6 mm × 44.5 mm × 217 mm
Weight	3.15 kg

8 Protecting the environment

Disposal of the packaging material

For the transport and protective packaging, environmentally friendly materials have been chosen that can be supplied to normal recycling.

Ensure that plastic bags, packaging, etc. are properly disposed of.

Do not just dispose of these materials with your normal household waste, but make sure that they are collected for recycling. Please follow the notes and markings on the packaging.

Disposal of your old device

This product is subject to the European Waste Electrical and Electronic Equipment Directive (WEEE). Do not dispose with your normal household waste.

Dispose of this device through an approved waste disposal firm or through your local waste facility. When discarding the device, comply with the rules and regulations that apply in your country. If in doubt, consult your local waste disposal facility.

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